

Application Serial No.: 09/639,946
Reply to Office Action dated July 17, 2003

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 19, 21-25, 32-35, 37-40, and 58-90 are presently active in this case, Claims 19, 40, 62, 66, 68, 77, 83, and 84 having been amended and Claim 90 having been added by way of the present Amendment.

In the outstanding Official Action, Claims 62 and 63 were objected to because of a minor informality. Accordingly, claims 62 was amended to change "said plurality of tip" to "said plurality of tips" as suggested in the Official Action. Accordingly, the Applicants request the withdrawal of the objection to Claims 62 and 63.

Claims 19, 21-24, 59-61, 68-72, 74-78, and 86-89 were rejected under 35 U.S.C. 102(a) as being anticipated by Betman et al. (U.S. Patent No. 6,074,137). Claims 32-35, 37, 38, 40, 58, 64, and 65 were rejected under 35 U.S.C. 102(e) as being anticipated by Satran et al. (U.S. Patent No. 6,270,292). Claims 25 and 73 were rejected under 35 U.S.C. 103(a) as being unpatentable over Betman et al. in view of Swanson (U.S. Patent No. 1,912,666). Claim 39 was rejected under 35 U.S.C. 103(a) as being unpatentable over Satran et al. in view of Tukala et al. (U.S. Patent No. 5,622,461). Claims 32, 62, 63, and 79-82 were rejected under 35 U.S.C. 103(a) as being unpatentable over Betman et al. in view of Cassidy (U.S. Patent No. 3,136,031). For the reasons discussed below, the Applicants request the withdrawal of the art rejections.

In the Office Action, the Betman et al. reference is indicated as anticipating each of independent Claims 19, 68, and 77, and the Satran et al. reference is indicated as anticipating independent Claim 32. However, the Applicants note that a claim is anticipated only if each

and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). As will be demonstrated below, the Betman et al. reference clearly does not meet each and every limitation of the independent Claims 19, 68, and 77, and the Satran et al. reference clearly does not meet each and every limitation of independent Claim 32.

Claim 19 of the present application recites, among other features, a tip comprising at least one edge corner having a corner angle of greater than 90°. Claim 68 recites, among other features, a tip comprising a substantially planar plate including at least one edge corner having a corner angle of greater than 90°. Claim 77 recites, among other features, a cutting tool comprising a tool body and a first tip mounted to a distal end of the tool body, wherein the first tip comprises a substantially planar plate including at least one edge corner having a corner angle of greater than 90°. The Betman et al. reference does not teach all of the limitations recited in Claims 19, 68, and 77.

The Betman et al. reference describes a cutting insert that is substantially square shaped. The cutting insert is described as having side edges having a substantially straight central portion and an angle at each of its acute insert cutting corners in the region of 83°±5°. Thus, the Betman et al. reference does not disclose a corner angle greater than 90°, as recited in each of Claims 19, 68, and 77. Accordingly, the Applicants respectfully submit that the inventions recited in Claims 19, 68, and 77 of the present application are not anticipated by the Betman et al. reference.

Claim 32 of the present application advantageously recites a cutting tool comprising a tool body having a distal end, and a plurality of tips mounted to the distal end of the tool

body. Each tip of the plurality of tips comprises a plate of substantially quadrilateral shape, where the plate has a first corner having a corner angle of less than 90° and an adjacent second corner has a corner angle of less than 90° . At least one of the first corner and the second corner is arranged to project along an outer periphery of the distal end of the tool body. The Satran et al. reference does not teach all of the limitations recited in Claim 32.

The Applicants note that the term "quadrilateral" is defined as "a four-sided polygon" (emphasis added) in Webster's II New College Dictionary. Additionally, a "polygon" is defined as "a closed plane figure bounded by three or more line segments" (emphasis added). And finally, a "plane" is defined as "a surface containing all the straight lines connecting any two points on it" or "a level or flat surface."

As indicated in a previous response, the Satran et al. reference does not disclose a tip formed of a plate of substantially quadrilateral shape, as recited in Claim 32. The Official Action cites tip (1) in Figures 1 and 4 of the Satran et al. reference for the teaching of an approximately quadrilateral-shaped plate. The Official Action refers to Figure 4 and indicates that a plate is shown having a thickness (18). However, the Applicants respectfully submit that the cutting insert (1) having front cutting portion (2) of the Satran et al. reference does not include a substantially quadrilateral-shaped plate. In fact, the front cutting portion (2) has adjacent side cutting edges (11) that are at a significant angle to one another, as is evident from a review of Figure 2. The Applicants note that Figure 4 is a two-dimensional representation of a three-dimensional object. The object shown in Figure 4 is not planar, and does not constitute a substantially quadrilateral plate, but rather an object having six side edges (two minor cutting edges (7) and four component cutting edges (11)), as can be clearly seen upon a review of Figures 1 and 2 of the Satran et al. reference. Accordingly, the front

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cutting portion (2), which is a unitary structure in the Satran et al. reference, is not even remotely planar and therefore cannot be said to have a quadrilateral shape. The Satran et al. cannot be said to have a plate having a substantially quadrilateral shape, since no such plate is taught in the Satran et al. reference.

Accordingly, the Applicants respectfully request the withdrawal of the anticipation rejection Claim 32.

Accordingly, the Applicants respectfully request the withdrawal of the art rejections of independent Claims 19, 32, 68, and 77.

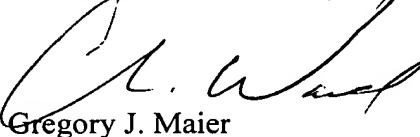
All of the dependent claims are considered allowable for the reasons advanced for the independent claims from which they depend.

Newly added Claim 90 is considered allowable as it recites features of the invention that are neither disclosed nor suggested by the references of record.

Consequently, in view of the above discussion, it is respectfully submitted that the present application is in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

Respectfully Submitted,

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